

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P50255PC00	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/NL 00/ 00654	International filing date (day/month/year) 15/09/2000	(Earliest) Priority Date (day/month/year) 16/09/1999
Applicant SARA LEE/DE N.V. et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.
☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1
☐ None of the figures.

PC 00/00654

INTERNATIONAL SEARCH REPORT

International Application No

PC 00/00654

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 1 040 409 A (PROTECT-SOL) 15 October 1953 (1953-10-15) column 2, line 9 - line 20 figures 6,7 claim ----	1,6-8, 10-12
Y	FR 2 510 410 A (ALKEKENGE SARL) 4 February 1983 (1983-02-04) figure claims ----	1,9
A	WO 99 22776 A (SMITH NIGEL PETER ;GLOBOL CHEM UK LTD (GB)) 14 May 1999 (1999-05-14) figure 1 claims ----	1-12
A	US 5 891 400 A (POTTS BARBARA ET AL) 6 April 1999 (1999-04-06) figures 1,3 claims 1,4,7-10 -----	1,2,4,5, 8,10-12

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PO 00/00654

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
FR 1139960	A	09-07-1957	NONE	
DE 943680	C		NONE	
US 5840257	A	24-11-1998	CA 2202179 A CA 2205079 A, C	08-10-1998 12-06-1997
FR 1040409	A	15-10-1953	NONE	
FR 2510410	A	04-02-1983	NONE	
WO 9922776	A	14-05-1999	AU 9553298 A EP 1027083 A NO 20002123 A	24-05-1999 16-08-2000 26-04-2000
US 5891400	A	06-04-1999	NONE	

Title: Air freshening apparatus

The present invention relates to an air freshening apparatus, comprising a reservoir with a wick, which reservoir can be filled with a fuel, particularly with lamp oil.

5 Such an apparatus is known from Dutch patent application NL-A-10.06055. In that apparatus the reservoir is filled with a mixture of a lamp fuel and an active component, such as a fragrance, which mixture is absorbed by a wick. The upper part of the wick is surrounded by a heat conducting
10 bushlike element with openings via which the fragrance evaporates during burning. A shield is present to prevent the evaporated fragrance entering into the flame and getting burned.

15 A disadvantage of a mixture of lamp fuel and fragrance is that the composition of the mixture will not be constant due to a different evaporating rate and to a certain evaporating of the fragrance during the period that the apparatus is not in use, i.e. is not burning.

20 The purpose of the invention is to improve the known apparatus, particularly with respect to the above disadvantage. Therefore, according to the invention, the air freshening apparatus as described in the preamble is characterized in that the apparatus further comprises heat
conducting means for heat transport from the wick, when
25 burning, to a separate holder for an active component, such as a fragrance.

30 In a first preferred embodiment the reservoir is provided with a lid holding the wick and with a lamp glass thereabove while in the lamp glass there is mounted a metal element, which forms part of the heat conducting means. In this embodiment the metal element can be mounted in the lamp glass in the vicinity of, particularly above the location of the wick, when burning.

From a constructional point of view the holder can form an integral part of the apparatus. Also the holder can form an integral part of the lamp glass. Further at least part of the holder can form part of the heat conducting means.

5 In a further embodiment the holder is replaceable, while the apparatus is provided with connecting means to connect the holder to the apparatus. In that embodiment at least part of the connecting means or at least part of a contact surface between the holder and the apparatus can form
10 part of the heat conducting means.

The holder can be provided with a porous wick to transport the active component out of the holder. Also the holder can be provided with one or more openings in the upper part thereof via which openings the active component can
15 evaporate. In stead of a porous material, the wick, particularly the wick in the holder, can be formed by a capillary element. Further, the holder can also be provided with a liquid permeable closing element, via which the active component is received by a carrier element, which carrier
20 element can form part of the heat conducting means and serves as an evaporator.

The invention not only relates to an air freshening apparatus, but also to a combination of the above described air freshening apparatus and a holder for an active
25 component, such as a fragrance.

The invention also relates to a holder for an active component, such as a fragrance, for use in the above described air freshening apparatus.

30 The invention will now be described with reference to the enclosed drawing, in which:

Fig. 1 shows a first embodiment of the air freshening apparatus according to the invention; and

Fig. 2 shows a second embodiment of such an air
35 freshening apparatus.

The first embodiment of the apparatus according to the invention as shown in fig. 1 comprises a reservoir 1, which is filled with lamp fuel 2 and is closed by a lid 3. Through an opening in the lid 3 a wick 4 is inserted into the lamp
5 fuel in the reservoir 1. A lamp glass 5 is placed on the top of the lid 3. A separate holder 6, filled with an active component 7, such as a fragrance, is provided. In the embodiment shown, the holder 6 forms an integral part of the lamp glass 5. Through an opening in the upper part of the
10 holder 6 a wick 8 is inserted into the active component 7 in the holder 6. In the lamp glass 5 a metal element 9 is mounted in the vicinity of the wick 4, particularly above the wick 4 at such a distance that, when the wick is burning, the flame heats the metal element 9. Heat conducting means are
15 formed by the metal part 5 and at least part of the contact surface 10 between the holder 6 and the lamp glass 5. Particularly, part of the contact surface 10 can be a metal part connected to the metal element 9. When the wick 4 is burning, heat is conducted from the metal element 9 and at
20 least part of the contact surface 10 to the active component 7 in the holder 6, with the consequence that the active component is evaporated via the wick 8.

Fig. 2 shows an embodiment of the apparatus according to the invention, in which a reservoir 11, filled with a lamp
25 fuel 12 is closed by a heat conducting plug 13. Through an opening in the plug 13 a wick 14 is inserted. A separate holder 15, filled with an active component 16, such as a fragrance, is replaceable mounted on a side surface of the reservoir 11, e.g. by clamping means 17. Through the open end
30 of the holder 15 a wick 18 is inserted. The wick 18 reaches out of a bushlike element 19, which is mounted above the opening of the holder 15. The bushlike element 19 is connected is provided with a projection 21, which reaches to above the plug 13 and forms with the plug 13 heat conducting
35 means. When the wick 14 is burning, heat is conducted through the plug 13 and the bushlike element 19 to

the active component 16 in the holder 15, with the consequence that the active component is evaporated via the wick 18. A shield 20 is provided to prevent the evaporated active component entering into the flame and getting burned.

5 It will be clear that the invention is not restricted to the preferred embodiments shown in the figures. Particularly, it will be clear to the skilled man that many alternatives exist for performing the function of the apparatus discussed. So, the form and size of the reservoir,
10 the holder and the lamp can arbitrarily be chosen. Taking into the heat generated by burning of lamp fuel several, preferably transparent materials can be used; however, the heat conducting means will be of metal.

Claims

1. Air freshening apparatus, comprising a reservoir with a wick, which reservoir can be filled with a fuel, particularly with lamp oil, characterized in that the apparatus further comprises heat conducting means for heat transport from the wick, when burning, to a separate holder for an active component, such as a fragrance.
2. Air freshening apparatus according to claim 1, characterized in that the reservoir is provided with a lid holding the wick and with a lamp glass thereabove while in the lamp glass there is mounted a metal element, which forms part of the heat conducting means.
3. Air freshening apparatus according to claim 1 or 2, characterized in that the metal element is mounted in the lamp glass in the vicinity of, particularly above the location of the wick, when burning.
4. Air freshening apparatus according to any one of the preceding claims, characterized in that the holder forms an integral part of the apparatus.
5. Air freshening apparatus according to claim 2 and 4, characterized in that the holder forms an integral part of the lamp glass.
6. Air freshening apparatus according to any one of the preceding claims, characterized in that at least part of the holder forms part of the heat conducting means.
7. Air freshening apparatus according to anyone of the claims 1-3, characterized in that the holder is replaceable and that the apparatus is provided with connecting means to connect the holder to the apparatus.
8. Air freshening apparatus according to claim 7, characterized in that at least part of the connecting means or at least part of a contact surface between the holder and the apparatus forms part of the heat conducting means.

9. Air freshening apparatus according to any one of the preceding claims, characterized in that the holder is provided with a porous wick to transport the active component out of the holder.
- 5 10. Air freshening apparatus according to any one of the preceding claims 1-8, characterized in that the holder is provided with one or more openings in the upper part thereof via which openings the active component can evaporate.
- 10 11. Combination of an air freshening apparatus according to claim 7 or 8 and a holder for an active component, such as a fragrance.
12. Holder for an active component, such as a fragrance, for use in an air freshening apparatus according to claim 7 or 8.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/NL 00/00654

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61L9/03

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61L A01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	FR 1 139 960 A (TEMPLEMAN F E) 9 July 1957 (1957-07-09) figures claims	1-3,6-8, 10-12 1,9
X	DE 943 680 C (BRUCKBAUER & GOTZ) 24 May 1956 (1956-05-24) the whole document	1-3,6-8, 10-12
X	US 5 840 257 A (BUREAU JEAN-LOUIS ET AL) 24 November 1998 (1998-11-24) figures claims	1,6-8, 10-12
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

30 November 2000

Date of mailing of the international search report

08/12/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Thornton, S

INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL 00/00654

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 1 040 409 A (PROTECT-SOL) 15 October 1953 (1953-10-15) column 2, line 9 - line 20 figures 6,7 claim -----	1,6-8, 10-12
Y	FR 2 510 410 A (ALKEKENGE SARL) 4 February 1983 (1983-02-04) figure claims -----	1,9
A	WO 99 22776 A (SMITH NIGEL PETER ;GLOBOL CHEM UK LTD (GB)) 14 May 1999 (1999-05-14) figure 1 claims -----	1-12
A	US 5 891 400 A (POTTS BARBARA ET AL) 6 April 1999 (1999-04-06) figures 1,3 claims 1,4,7-10 -----	1,2,4,5, 8,10-12

INTERNATIONAL SEARCH REPORT

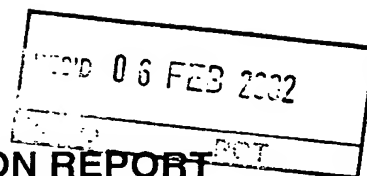
Information on patent family members

International Application No

PCT/NL 00/00654

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
FR 1139960	A	09-07-1957	NONE		
DE 943680	C		NONE		
US 5840257	A	24-11-1998	CA	2202179 A	08-10-1998
			CA	2205079 A,C	12-06-1997
FR 1040409	A	15-10-1953	NONE		
FR 2510410	A	04-02-1983	NONE		
WO 9922776	A	14-05-1999	AU	9553298 A	24-05-1999
			EP	1027083 A	16-08-2000
			NO	20002123 A	26-04-2000
US 5891400	A	06-04-1999	NONE		

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Corrected
version.

(PCT Article 36 and Rule 70)

11



Applicant's or agent's file reference P50255PC00	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/NL00/00654	International filing date (day/month/year) 15/09/2000	Priority date (day/month/year) 16/09/1999
International Patent Classification (IPC) or national classification and IPC A61L9/03		
Applicant SARA LEE/DE N.V. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
 - ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 6 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 29/03/2001	Date of completion of this report 04.02.2002
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Skowronski, M Telephone No. +49 89 2399 8475 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NL00/00654

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-4 as received on 18/12/2001 with letter of 14/12/2001

Claims, No.:

1-12 as received on 18/12/2001 with letter of 14/12/2001

Drawings, sheets:

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NL00/00654

- ☐ the drawings, sheets:
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):
(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-12
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-12
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-12
	No:	Claims	

2. Citations and explanations
see separate sheet

The international preliminary examination report are based on following documents cited in the international search report:

- D1: FR-A-1 139 960 (TEMPLEMAN F E) 9 July 1957 (1957-07-09)
- D2: FR-A-2 510 410 (ALKEKENG SARL) 4 February 1983 (1983-02-04)
- D3: US-A-5 891 400 (POTTS BARBARA ET AL) 6 April 1999 (1999-04-06)

Item V

1. Inventive step (Article 33(3) PCT)

- a) The present application defines an apparatus comprising a reservoir with a wick, which reservoir can be filled with a fuel, particularly with lamp oil and comprising a separate holder for an active component, whereas the apparatus is an air freshening apparatus further comprising heat conducting means for heat transport from the wick, when burning, to the separate holder for the active component, such as a fragrance, the heat conducting means comprising a metal element which is mounted in the vicinity of the wick at such a distance that, when the wick is burning, the flame heats the metal element.
- b) The present application differs from D1 in that there is a heat conducting means comprising a metal element that, when the wick is burning, the flame heats the metal element.
- c) This feature solves the problem that evaporated fragrance does not enter into the flame and burns, so that the perfume will be properly spread into the room.
- d) There is no indication in the given state of the art that the problem can be solved by the apparatus of the present application, so that the subject-matter of claim 1 involves an inventive step in the sense of Article 33(3) PCT.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P50255PC00	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/NL00/00654	International filing date (day/month/year) 15/09/2000	Priority date (day/month/year) 16/09/1999
International Patent Classification (IPC) or national classification and IPC A61L9/03		
Applicant SARA LEE/DE N.V. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 4 sheets, including this cover sheet.

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- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 29/03/2001	Date of completion of this report 04.02.2002
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80289 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Skowronski, M Telephone No. +49 89 2399 8475 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NL00/00654

I. Basis of the report

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*)
Description, pages:

1-4 as received on 18/12/2001 with letter of 14/12/2001

Claims, No.:

1-12 as received on 18/12/2001 with letter of 14/12/2001

Drawings, sheets:

1/1 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NL00/00854

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims 1-12
	No:	Claims
Inventive step (IS)	Yes:	Claims 1-12
	No:	Claims
Industrial applicability (IA)	Yes:	Claims 1-12
	No:	Claims

- 2. Citations and explanations**
see separate sheet

1013 Rec'd PCT/PTO 15 MAR 2002
NL0000654

13-12-2001

3/ppts

EFO-DC-1

new page 1

18.12.2001

Title: Air freshening apparatus

The present invention relates to an ~~air freshening~~ apparatus, comprising a reservoir with a wick, which reservoir can be filled with a fuel, particularly with lamp oil and comprising a separate holder for an active component.

5 Such an apparatus is known FR-A-1 139 960 which
discloses an oil lamp having an reservoir for fuel in which a
wick is provided. Above the wick a holder for a fumigation
substance, e.g. to fumigate insects, is provided. The bottom
10 of the holder is directly heated by the hot burning gases
which rise from the flame.

FR-A-2 510 410 discloses a electric lamp bulb with a
holder for perfume. Air, which is heated by the electric lamp
bulb is led to a wick which is placed in the perfume which is
in the holder. Consequently, the perfume is evaporated
15 through the wick more efficiently by the heated air which is
flowing along the wick.

US-A-5 891 400 shows a candle container with a
surrounding open top container for receiving and holding a
gel containing a vaporizable or diffusable substance that
20 passes from the gel into the surrounding atmosphere after
exposure to the thermal energy from the lighted candle.

~~from Dutch patent application NL-A-10.06055. In that~~
discloses an apparatus in which the reservoir is filled with
a mixture of a lamp fuel and an active component, such as a
25 fragrance, which mixture is absorbed by a wick. The upper
part of the wick is surrounded by a heat conducting bushlike
element with openings via which the fragrance evaporates
during burning. A shield is present to prevent the evaporated
fragrance entering into the flame and getting burned.

30 A disadvantage of a mixture of lamp fuel and fragrance
is that the composition of the mixture will not be constant
due to a different evaporating rate and to a certain

18-12-2001

NL0000654

new page 2

evaporating of the fragrance during the period that the apparatus is not in use, i.e. is not burning.

The purpose of the invention is to improve the known apparatus, particularly with respect to the above
5 disadvantage. Therefore, according to the invention, the air freshening apparatus as described in the preamble is characterized in that the apparatus is an air freshening apparatus further comprising heat conducting means for heat transport from the wick, when burning, to the a separate
10 holder for ~~the~~ an active component, such as a fragrance, the heat conducting means comprising a metal element which is mounted in the vicinity of the wick at such a distance that, when the wick is burning, the flame heats the metal element.

In a first preferred embodiment the reservoir is
15 provided with a lid holding the wick and with a lamp glass thereabove while in the lamp glass there is mounted a metal element, which forms part of the heat conducting means. In this embodiment the metal element can be mounted in the lamp glass in the vicinity of, particularly above the location of
20 the wick, when burning.

From a constructional point of view the holder can form an integral part of the apparatus. Also the holder can form an integral part of the lamp glass. Further at least part of the holder can form part of the heat conducting means.

25 In a further embodiment the holder is replaceable, while the apparatus is provided with connecting means to connect the holder to the apparatus. In that embodiment at least part of the connecting means or at least part of a contact surface between the holder and the apparatus can form
30 part of the heat conducting means.

The holder can be provided with a porous wick to transport the active component out of the holder. Also the holder can be provided with one or more openings in the upper part thereof via which openings the active component can
35 evaporate. In stead of a porous material, the wick, particularly the wick in the holder, can be formed by a

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capillary element. Further, the holder can also be provided with a liquid permeable closing element, via which the active component is received by a carrier element, which carrier element can form part of the heat conducting means and serves
5 as an evaporator.

The invention not only relates to an air freshening apparatus, but also to a combination of the above described air freshening apparatus and a holder for an active component, such as a fragrance.

10 The invention also relates to a holder for an active component, such as a fragrance, for use in the above described air freshening apparatus.

The invention will now be described with reference to
15 the enclosed drawing, in which:

Fig. 1 shows a first embodiment of the air freshening apparatus according to the invention; and

Fig. 2 shows a second embodiment of such an air
freshening apparatus.

20 The first embodiment of the apparatus according to the invention as shown in fig. 1 comprises a reservoir 1, which is filled with lamp fuel 2 and is closed by a lid 3. Through an opening in the lid 3 a wick 4 is inserted into the lamp
25 fuel in the reservoir 1. A lamp glass 5 is placed on the top of the lid 3. A separate holder 6, filled with an active component 7, such as a fragrance, is provided. In the embodiment shown, the holder 6 forms an integral part of the lamp glass 5. Through an opening in the upper part of the
30 holder 6 a wick 8 is inserted into the active component 7 in the holder 6. In the lamp glass 5 a metal element 9 is mounted in the vicinity of the wick 4, particularly above the wick 4 at such a distance that, when the wick is burning, the flame heats the metal element 9. Heat conducting means are
35 formed by the metal part 5 and at least part of the contact surface 10 between the holder 6 and the lamp glass 5.

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Particularly, part of the contact surface 10 can be a metal part connected to the metal element 9. When the wick 4 is burning, heat is conducted from the metal element 9 and at least part of the contact surface 10 to the active component 7 in the holder 6, with the consequence that the active component is evaporated via the wick 8.

Fig. 2 shows an embodiment of the apparatus according to the invention, in which a reservoir 11, filled with a lamp fuel 12 is closed by a heat conducting plug 13. Through an opening in the plug 13 a wick 14 is inserted. A separate holder 15, filled with an active component 16, such as a fragrance, is replaceable mounted on a side surface of the reservoir 11, e.g. by clamping means 17. Through the open end of the holder 15 a wick 18 is inserted. The wick 18 reaches out of a bushlike element 19, which is mounted above the opening of the holder 15. The bushlike element 19 is connected is provided with a projection 21, which reaches to above the plug 13 and forms with the plug 13 heat conducting means. When the wick 14 is burning, heat is conducted through the plug 13 and the bushlike element 19 to

the active component 16 in the holder 15, with the consequence that the active component is evaporated via the wick 18. A shield 20 is provided to prevent the evaporated active component entering into the flame and getting burned.

It will be clear that the invention is not restricted to the preferred embodiments shown in the figures. Particularly, it will be clear to the skilled man that many alternatives exist for performing the function of the apparatus discussed. So, the form and size of the reservoir, the holder and the lamp can arbitrarily chosen. Taking into the heat generated by burning of lamp fuel several, preferably transparent materials can be used; however, the heat conducting means will be of metal.

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new page 5Claims

1. ~~Air freshening apparatus~~, comprising a reservoir with a wick, which reservoir can be filled with a fuel, particularly with lamp oil and comprising a separate holder for an active component, characterized in that the apparatus is an air
- 5 freshening apparatus further comprising heat conducting means for heat transport from the wick, when burning, to ~~the~~ separate holder for ~~the~~ active component, such as a fragrance, the heat conducting means comprising a metal
- 10 element which is mounted in the vicinity of the wick at such a distance that, when the wick is burning, the flame heats the metal element.
2. Air freshening apparatus according to claim 1, characterized in that the reservoir is provided with a lid holding the wick and with a lamp glass thereabove while in
- 15 the lamp glass there is mounted a metal element, which forms part of the heat conducting means.
3. Air freshening apparatus according to claim 1 or 2, characterized in that the metal element is mounted in the lamp glass in the vicinity of, particularly above the
- 20 location of the wick, when burning.
4. Air freshening apparatus according to any one of the preceding claims, characterized in that the holder forms an integral part of the apparatus.
5. Air freshening apparatus according to claim 2 and 4,
- 25 characterized in that the holder forms an integral part of the lamp glass.
6. Air freshening apparatus according to any one of the preceding claims, characterized in that at least part of the holder forms part of the heat conducting means.
- 30 7. Air freshening apparatus according to anyone of the claims 1-3, characterized in that the holder is replaceable and that the apparatus is provided with connecting means to connect the holder to the apparatus.

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8. Air freshening apparatus according to claim 7, characterized in that at least part of the connecting means or at least part of a contact surface between the holder and the apparatus forms part of the heat conducting means.
- 5 9. Air freshening apparatus according to any one of the preceding claims, characterized in that the holder is provided with a porous wick to transport the active component out of the holder.
- 10 10. Air freshening apparatus according to any one of the preceding claims 1-8, characterized in that the holder is provided with one or more openings in the upper part thereof via which openings the active component can evaporate.
- 15 11. Combination of an air freshening apparatus according to claim 7 or 8 and a holder for an active component, such as a fragrance.
12. Holder for an active component, such as a fragrance, for use in an air freshening apparatus according to claim 7 or 8.

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(74) Agent: PRINS, Jr, A., W.; Vereenigde, Nieuwe Parklaan 97, NL-2587 BN The Hague (NL).

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(71) Applicant (for all designated States except US): SARA LEE/DE N.V. [NL/NL]; Kousleelade 143, NL-3532 AA Utrecht (NL).

(72) Inventor; and

(73) Inventor/Applicant (for US only): KUBN, Petrus, Henricus, Aloysius, Nicolaas [NL/NL]; Harenburglaan 294, NL-2565 HG The Hague (NL).

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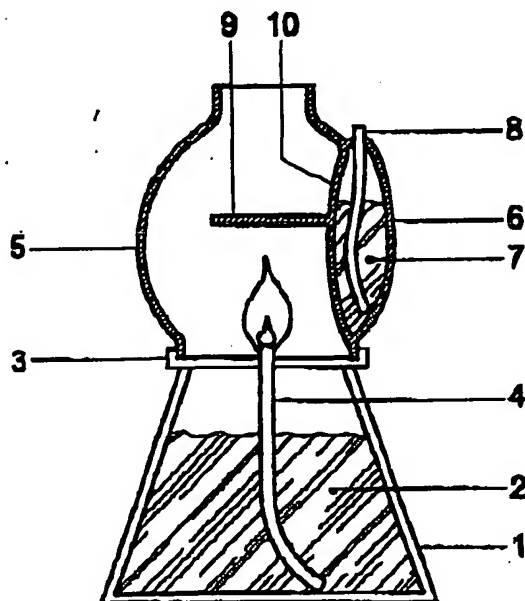
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(54) Title: AIR FRESHENING APPARATUS



(57) Abstract: An air freshening apparatus comprises a reservoir with a wick, which reservoir can be filled with a fuel, particularly with lamp oil, and heat conducting means for heat transport from the wick, when burning, to a separate holder for an active component, such as a fragrance. The holder may form an integral part of the apparatus or may be replaceable, in which case the apparatus is provided with connecting means to connect the holder to the apparatus.

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Title: Air freshening apparatus

The present invention relates to an air freshening apparatus, comprising a reservoir with a wick, which reservoir can be filled with a fuel, particularly with lamp oil.

5 Such an apparatus is known from Dutch patent application NL-A-10.06055. In that apparatus the reservoir is filled with a mixture of a lamp fuel and an active component, such as a fragrance, which mixture is absorbed by a wick. The upper part of the wick is surrounded by a heat conducting
10 bushlike element with openings via which the fragrance evaporates during burning. A shield is present to prevent the evaporated fragrance entering into the flame and getting burned.

15 A disadvantage of a mixture of lamp fuel and fragrance is that the composition of the mixture will not be constant due to a different evaporating rate and to a certain evaporating of the fragrance during the period that the apparatus is not in use, i.e. is not burning.

20 The purpose of the invention is to improve the known apparatus, particularly with respect to the above disadvantage. Therefore, according to the invention, the air freshening apparatus as described in the preamble is characterized in that the apparatus further comprises heat
conducting means for heat transport from the wick, when
25 burning, to a separate holder for an active component, such as a fragrance.

30 In a first preferred embodiment the reservoir is provided with a lid holding the wick and with a lamp glass thereabove while in the lamp glass there is mounted a metal element, which forms part of the heat conducting means. In this embodiment the metal element can be mounted in the lamp glass in the vicinity of, particularly above the location of the wick, when burning.

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From a constructional point of view the holder can form an integral part of the apparatus. Also the holder can form an integral part of the lamp glass. Further at least part of the holder can form part of the heat conducting means.

5 In a further embodiment the holder is replaceable, while the apparatus is provided with connecting means to connect the holder to the apparatus. In that embodiment at least part of the connecting means or at least part of a contact surface between the holder and the apparatus can form
10 part of the heat conducting means.

The holder can be provided with a porous wick to transport the active component out of the holder. Also the holder can be provided with one or more openings in the upper part thereof via which openings the active component can
15 evaporate. In stead of a porous material, the wick, particularly the wick in the holder, can be formed by a capillary element. Further, the holder can also be provided with a liquid permeable closing element, via which the active component is received by a carrier element, which carrier
20 element can form part of the heat conducting means and serves as an evaporator.

The invention not only relates to an air freshening apparatus, but also to a combination of the above described air freshening apparatus and a holder for an active
25 component, such as a fragrance.

The invention also relates to a holder for an active component, such as a fragrance, for use in the above described air freshening apparatus.

30 The invention will now be described with reference to the enclosed drawing, in which:

Fig. 1 shows a first embodiment of the air freshening apparatus according to the invention; and

Fig. 2 shows a second embodiment of such an air
35 freshening apparatus.

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The first embodiment of the apparatus according to the invention as shown in fig. 1 comprises a reservoir 1, which is filled with lamp fuel 2 and is closed by a lid 3. Through an opening in the lid 3 a wick 4 is inserted into the lamp fuel in the reservoir 1. A lamp glass 5 is placed on the top of the lid 3. A separate holder 6, filled with an active component 7, such as a fragrance, is provided. In the embodiment shown, the holder 6 forms an integral part of the lamp glass 5. Through an opening in the upper part of the holder 6 a wick 8 is inserted into the active component 7 in the holder 6. In the lamp glass 5 a metal element 9 is mounted in the vicinity of the wick 4, particularly above the wick 4 at such a distance that, when the wick is burning, the flame heats the metal element 9. Heat conducting means are formed by the metal part 5 and at least part of the contact surface 10 between the holder 6 and the lamp glass 5. Particularly, part of the contact surface 10 can be a metal part connected to the metal element 9. When the wick 4 is burning, heat is conducted from the metal element 9 and at least part of the contact surface 10 to the active component 7 in the holder 6, with the consequence that the active component is evaporated via the wick 8.

Fig. 2 shows an embodiment of the apparatus according to the invention, in which a reservoir 11, filled with a lamp fuel 12 is closed by a heat conducting plug 13. Through an opening in the plug 13 a wick 14 is inserted. A separate holder 15, filled with an active component 16, such as a fragrance, is replaceable mounted on a side surface of the reservoir 11, e.g. by clamping means 17. Through the open end of the holder 15 a wick 18 is inserted. The wick 18 reaches out of a bushlike element 19, which is mounted above the opening of the holder 15. The bushlike element 19 is connected is provided with a projection 21, which reaches to above the plug 13 and forms with the plug 13 heat conducting means. When the wick 14 is burning, heat is conducted through the plug 13 and the bushlike element 19 to

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the active component 16 in the holder 15, with the consequence that the active component is evaporated via the wick 18. A shield 20 is provided to prevent the evaporated active component entering into the flame and getting burned.

- 5 It will be clear that the invention is not restricted to the preferred embodiments shown in the figures. Particularly, it will be clear to the skilled man that many alternatives exist for performing the function of the apparatus discussed. So, the form and size of the reservoir,
- 10 the holder and the lamp can arbitrarily chosen. Taking into the heat generated by burning of lamp fuel several, preferably transparent materials can be used; however, the heat conducting means will be of metal.

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Claims

1. Air freshening apparatus, comprising a reservoir with a wick, which reservoir can be filled with a fuel, particularly with lamp oil, characterized in that the apparatus further comprises heat conducting means for heat transport from the
5 wick, when burning, to a separate holder for an active component, such as a fragrance.
2. Air freshening apparatus according to claim 1, characterized in that the reservoir is provided with a lid holding the wick and with a lamp glass thereabove while in
10 the lamp glass there is mounted a metal element, which forms part of the heat conducting means.
3. Air freshening apparatus according to claim 1 or 2, characterized in that the metal element is mounted in the lamp glass in the vicinity of, particularly above the
15 location of the wick, when burning.
4. Air freshening apparatus according to any one of the preceding claims, characterized in that the holder forms an integral part of the apparatus.
5. Air freshening apparatus according to claim 2 and 4,
20 characterized in that the holder forms an integral part of the lamp glass.
6. Air freshening apparatus according to any one of the preceding claims, characterized in that at least part of the holder forms part of the heat conducting means.
- 25 7. Air freshening apparatus according to anyone of the claims 1-3, characterized in that the holder is replaceable and that the apparatus is provided with connecting means to connect the holder to the apparatus.
8. Air freshening apparatus according to claim 7,
30 characterized in that at least part of the connecting means or at least part of a contact surface between the holder and the apparatus forms part of the heat conducting means.

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9. Air freshening apparatus according to any one of the preceding claims, characterized in that the holder is provided with a porous wick to transport the active component out of the holder.
- 5 10. Air freshening apparatus according to any one of the preceding claims 1-8, characterized in that the holder is provided with one or more openings in the upper part thereof via which openings the active component can evaporate.
- 10 11. Combination of an air freshening apparatus according to claim 7 or 8 and a holder for an active component, such as a fragrance.
12. Holder for an active component, such as a fragrance, for use in an air freshening apparatus according to claim 7 or 8.

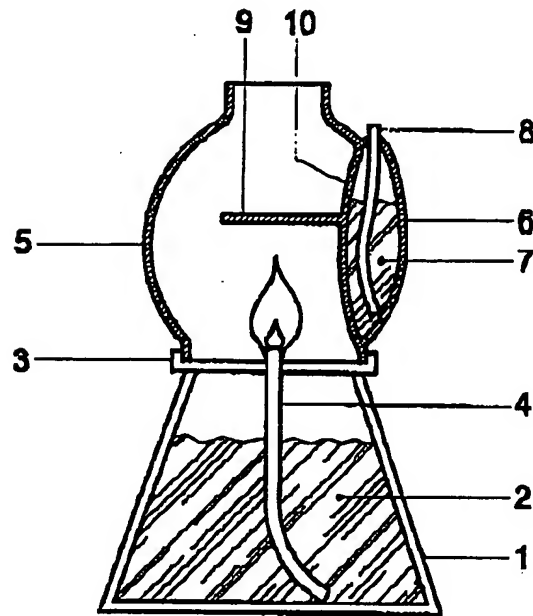


Fig. 1

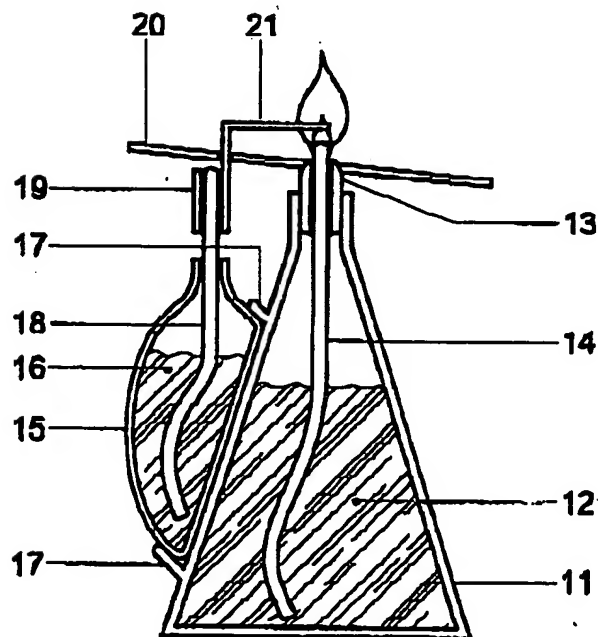


Fig. 2

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P50255PC00		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/NL00/00654	International filing date (day/month/year) 15/09/2000	Priority date (day/month/year) 16/09/1999	
International Patent Classification (IPC) or national classification and IPC A61L9/03			
Applicant SARA LEE/DE N.V. et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none">I <input checked="" type="checkbox"/> Basis of the reportII <input type="checkbox"/> PriorityIII <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicabilityIV <input type="checkbox"/> Lack of unity of inventionV <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statementVI <input type="checkbox"/> Certain documents citedVII <input type="checkbox"/> Certain defects in the international applicationVIII <input checked="" type="checkbox"/> Certain observations on the international application			
Date of submission of the demand 29/03/2001		Date of completion of this report 03.01.2002	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Skowronski, M Telephone No. +49 89 2399 8475	



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NL00/00654

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-4 as originally filed

Claims, No.:

1-12 as originally filed

Drawings, sheets:

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NL00/00654

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	
	No:	Claims	1-4, 6-8, 10-12
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-12
Industrial applicability (IA)	Yes:	Claims	1-12
	No:	Claims	

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Reference is made to the following documents:

- D1: FR-A-1 139 960 (TEMPLEMAN F E) 9 July 1957 (1957-07-09)
D2: FR-A-2 510 410 (ALKEKENGE SARL) 4 February 1983 (1983-02-04)
D3: US-A-5 891 400 (POTTS BARBARA ET AL) 6 April 1999 (1999-04-06)

Item V

1. Novelty (Article 33(2) PCT)

The present application does not meet the requirements of Article 33 PCT, because the subject-matter of claims 1-8 and 10-12. is not new in the sense of Article 33(2) PCT.

- 1.1 **Claim 1:** D1 shows a fumigation apparatus, comprising a oil lamp and a heat conducting means for heat transport from oil lamp to a separate holder for an active component (column 1 and 2, figures 1 and 2).
Consequently, the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.
- 1.2 **Claim 2:** Although the wick part of D1 is not shown, it is obvious that the wick must be placed in a holding, which usually has the form of a lid. Moreover, shows D1 a metal element (5) which is mounted on the lamp glass, so that the subject-matter of claim 2 is not new in the sense of Article 33(2) PCT.
- 1.3 **Claim 4:** D1 shows a apparatus where the holder forms an integral part of the apparatus (figure 1), so that the subject-matter of claim 4 is not new in the sense of Article 33(2) PCT.
- 1.5 **Claim 6 and 8:** The subject-matter of claims 6 and 8 is obvious and therefore not new in the sense of Article 33(2) PCT.
- 1.6 **Claim 7:** D1 shows a fumigation apparatus where the holder is replaceable (figure 1 and 2),so that the subject-matter of claim 7 is not new in the sense of Article 33(2) PCT.

- 1.7 **Claims 10-12:** D1 shows a fumigation apparatus with a holder for an active component having openings (figure 1 and 2), so that the subject-matter of claims 10-12 is not new in the sense of Article 33(2) PCT.

2. Inventive step (Article 33(3) PCT)

The present application does not meet the requirements of Article 33 PCT, because the subject-matter of claims 5 and 9 does not involve an inventive step in the sense of Article 33(3) PCT.

- 2.1 **Claims 5 and 9:** It is not clear what technical problem is solved by the subject-matter of claims 5 and 9 and which unexpected technical effect would result from its subject-matter. This is especially the case, when considering D2 where a diffuser for perfume is shown which uses a wick for the perfume and where the holder forms an integral part of the lamp glass (figure 1). Consequently, the subject-matter of claims 5 and 9 does not involve an inventive step in the sense of Article 33(3) PCT.
3. Also relevant for the present application is D3, which describes a volatile substance dispenser which differs from the present application in that a candle (wick with wax) is used instead of a wick with lamp oil. However, it would be obvious for a person skilled in the art to replace the candle by a oil lamp type of construction.

Item VIII

- 4.1 **Claim 3:** The term "in the vicinity of" used in claim 3 is vague and unclear and leaves the reader in doubt as to the meaning of the technical feature to which it refers, thereby rendering the definition of the subject-matter of said claim unclear (Article 6 PCT).
- 4.2 **Claim 5:** Claims 5 does not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. Claim 5 which is dependent on claim 2 defines the holder as an integral part of the lamp glass, whereas in claim 2 a metal element, forming the heat conducting part, is mounted in the lamp glass, leaving the lector in doubt of the construction of which

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NL00/00654

protection is sought (Article 6 PCT).